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## INTELLIGENCE AS A FACTOR IN THE ELECTION OF HIGH-SCHOOL SUBJECTS

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With the large freedom of election now provided for students in high schools, it seems appropriate to inquire to what extent the intelligence level of the student is a factor in determining the subjects elected. Are there subjects which attract especially students of high intellectual ability and others which attract students of inferior mental ability? The use of intelligence tests makes it possible to give partial answers to these questions.

The data used in this study are part of the material collected in the survey of the high school at Fort Smith, Arkansas. About 850 students were enrolled in this high school. Very little provision was made for educational or vocational guidance. The subjects which the students elected were chosen almost entirely by the students themselves or with the help of their parents.

The students were given the Otis Intelligence Test, and from the results the quartile ranges for each class group were determined. Table I shows the fourth and the first quartile ranges for each class group and the number of cases within each. The ordinary class designation is used. The table is read as follows: In the fourth quartile of the IA class the scores range from 145 to 178; in the first quartile, from 53 to 109; there were 48 cases in each quartile.

Table II shows the number of elections made in each subject by the students who ranked in the fourth and first quartiles of each class. English, algebra, and plane geometry are not shown in this table for the reason that they were required of all students. The table is read as follows: In the IA class 33 students in the fourth quartile and 35 students in the first quartile elected history.

The total number of elections recorded in Table II is 766. Of these, 406 were made by students in the fourth quartiles and 360 by students in the first quartiles. Very few students from the first

TABLE I

RANGE OF FOURTH AND FIRST QUARTILE SCORES OF EACH CLASS  
ON THE OTIS INTELLIGENCE TEST AND THE NUMBER OF  
CASES IN EACH QUARTILE GROUP

CLASS	FOURTH QUARTILE		FIRST QUARTILE	
	Range	Number of Cases	Range	Number of Cases
IA.....	145-178	48	53-109	48
IIB.....	146-178	17	56-112	17
IIA.....	154-195	23	74-114	23
IIIB.....	158-187	12	23-114	12
IIIA.....	152-190	20	74-124	20
IVB.....	164-187	10	82-130	10
IVA.....	171-200	26	88-137	26
Total.....	.....	156	.....	156

TABLE II

NUMBER OF ELECTIONS IN EACH OF THE ELECTIVE SUBJECTS BY THE STUDENTS IN  
THE FOURTH AND FIRST QUARTILES OF EACH CLASS

	I A		II B AND II A		III B AND III A		IV B AND IV A		TOTAL	
	Fourth Quartile	First Quartile	Fourth Quartile	First Quartile	Fourth Quartile	First Quartile	Fourth Quartile	First Quartile	Fourth Quartile	First Quartile
History.....	33	35	27	23	16	17	25	34	101	109
Latin.....	22	8	9	5	13	2	14	2	58	17
Spanish.....	3	3	3	1	5	2	1	3	12	9
French.....	1	1	7	4	12	6	14	7	34	18
General science.....	24	15	14	4	3	3	0	0	41	22
Biology.....	0	0	1	3	2	2	5	6	8	11
Chemistry.....	0	0	0	0	8	1	6	4	14	5
Physics.....	0	0	0	0	0	0	6	1	6	1
Typewriting.....	1	0	0	4	7	8	6	9	14	21
Bookkeeping.....	0	1	0	3	3	4	3	6	6	14
Commercial arithmetic	3	2	0	2	1	2	3	3	7	9
Commercial geography	0	0	2	1	1	1	2	5	5	7
Shorthand.....	0	0	0	2	6	9	4	7	10	18
Commercial spelling...	0	0	0	0	0	0	2	0	2	0
Advanced algebra...	0	0	0	0	4	0	5	1	9	1
Solid geometry.....	0	0	0	0	0	0	11	1	11	1
Manual training.....	7	8	10	5	0	0	0	0	17	13
Mechanical drawing..	7	10	3	2	0	0	1	0	11	12
Domestic art.....	6	16	10	22	9	15	11	13	36	66
Fine art.....	1	1	1	3	0	0	2	1	4	5
Music.....	0	0	0	1	0	0	0	0	0	1

quartiles elected Latin, and only four students from the first quartiles as compared with twenty-seven from the fourth quartiles elected third- and fourth-year Latin. Modern foreign languages show a similar but less marked tendency to attract students from the fourth quartiles. General science, physics, and chemistry each seem to be more popular with the students of highest ability. Domestic art was elected by nearly twice as many students in the first quartiles as in the fourth. All commercial subjects also were popular with first-quartile students.

TABLE III

NUMBER AND PERCENTAGE OF ELECTIONS IN EACH SUBJECT GROUP BY THE STUDENTS  
IN THE FOURTH AND FIRST QUARTILES

	NUMBER		TOTAL	PERCENTAGE	
	Fourth Quartiles	First Quartiles		Fourth Quartiles	First Quartiles
Advanced algebra and solid geometry	20	2	22	90.9	9.1
Latin.....	58	17	75	77.3	22.7
Natural science.....	69	39	108	63.9	36.1
Spanish and French.....	46	27	73	63.0	37.0
Manual training and mechanical drawing.....	28	25	53	52.8	47.2
History.....	101	109	210	48.1	51.9
Commercial subjects.....	44	69	113	38.9	61.1
Domestic art.....	36	66	102	35.3	64.7

Table III is prepared from the data in Table II, the corresponding quartiles of each class group being combined. It shows, therefore, the total number of elections made by the students of the fourth and first quartiles in each subject group. General science, biology, physics, and chemistry are grouped under natural science; and shorthand, typewriting, bookkeeping, commercial arithmetic, commercial geography, and commercial spelling are grouped under commercial subjects. In order that these figures may be readily compared, they have been converted into percentages. The table reads as follows: A total of 20 students from the fourth quartiles and 2 from the first quartiles of all classes elected advanced algebra and solid geometry; 90.9 per cent of the students who elected advanced algebra and solid geometry were in the fourth quartiles;

9.1 per cent, in the first quartiles. The facts of Table III are shown graphically in Figure 1.

Educational and vocational guidance was almost entirely neglected in the school surveyed. However, the traditions of certain subjects made them popular with students of one intelligence level

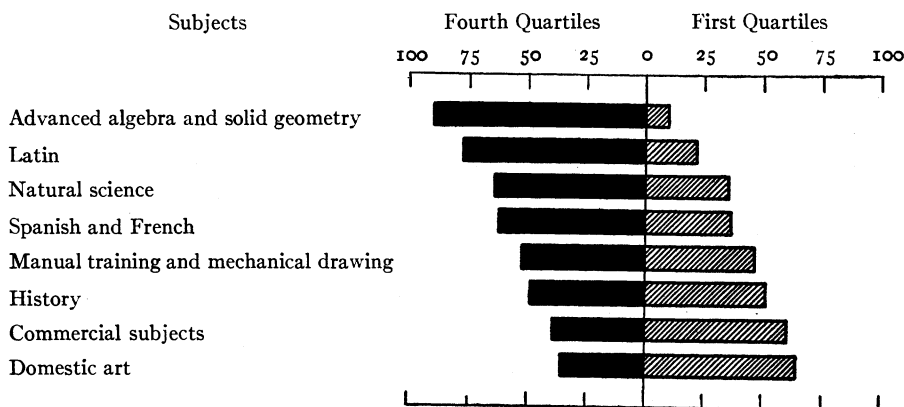


FIG. 1.—Elections per hundred in each subject group by students in the first and fourth quartiles.

and unpopular with those of another level. From the records obtained from this school it appears that students possessing superior intelligence are attracted to those subjects which make the largest intellectual demands, while students of inferior intelligence are attracted to those subjects which make larger demands on manual dexterity and lesser demands on intellectual capacity.